Equipment Requirements Information Paper

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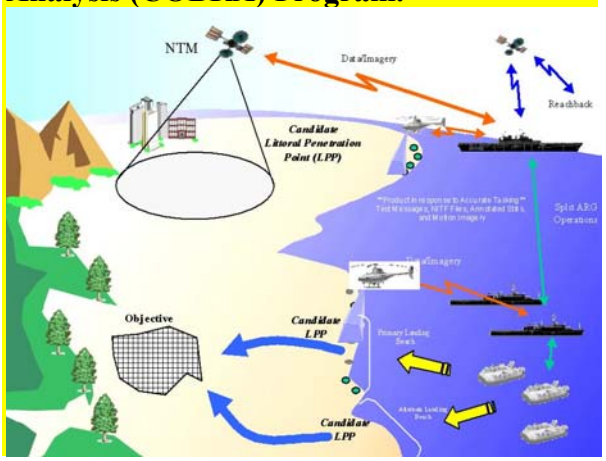
Coastal Battlefield Reconnaissance and Analysis

Purpose. To provide background on the Coastal Battlefield Reconnaissance and Analysis (COBRA) Program.



Purpose

- To provide information on COBRA for POM04.

Major Points

- COBRA is the only UAV sensor system specifically developed to conduct littoral reconnaissance and detect minefields, obstacles, and camouflaged defenses.
- The COBRA Operational Requirements Document, Approved by the MROC 10 April 2001, identifies initial system and pre-planned product improvement (P3I) requirements.
- The COBRA acquisition program awarded the System Design Contract on 10 August 2001.
- COBRA initial system development was 70% funded by POM 02.
- Initial Operating Capability for the initial system is scheduled for FY 07 due to limited funding in FYs 02,03.

Discussion

- The COBRA System will use a multi-spectral camera UAV sensor payload for collection and a Ground Control Station for training, planning and processing of information received.
- The automated minefield detection capability was proven by an Advanced Technology Demonstration system 1995-1998.
- USMC UAV squadrons will employ COBRA and the system will be compatible with all Naval VTUAVs.
- The Request for Alternative Analysis was approved 3Q FY00.
- COBRA will enhance tactical GIS information (Trafficability Assessments, Bathymetry, Targeting, CSAR, and Urban Situational Awareness) for the MAGTF.
- The COBRA Initial system will fly at altitudes from 2000-6000 feet for minefield detection missions. Key Performance Parameters are:
  - Detection - 80% of minefields with 8" surface laid mines
  - False Alarm Rate <= 30%
- The COBRA P3I system will fly at altitudes from 1000-8000 feet. P3I parameters that mirror the above KPPs are:
  - Detection
    - 90% of minefields with 6" surface laid mines
    - 75% of minefields with 10" buried mines with 5" overburden
    - Demonstrated capability of mines in the surf zone (<=10' depth) in Sea State I.
  - False Alarm Rate <= 15%
- The Office of Naval Research is supporting the P3I system development via the Organic MCM Spike of the Future Naval Capabilities Process.
- OPNAV has programmed funds to integrate the VSW through SZ mine detection P3I capability
- The COBRA GCS will disseminate processed data to customers via the Tactical Data Network (TDN).
- The COBRA operating altitude puts the VTUAV within small arms, surface to air, and anti-air artillery range for the minefield detection mission, ancillary mission profiles will be planned around platform survivability.
- No other system currently in development is small enough to fly on a Tactical UAV.
- COBRA is designed to operate with the VMU manpower planned for VTUAV.
- MCM is currently #5 on the JROC UAV payload priority list.
- Without COBRA, the MAGTF would have to rely on national assets to provide a limited capability.